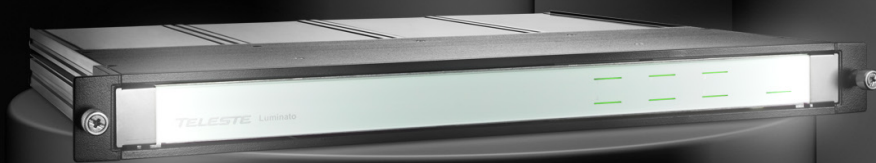


Fully scalable Headend platform for Cable TV and IPTV networks

Luminato is a high density modular platform for
IPTV and cable TV headends with advanced
real time stream processing



The Teleste Luminato platform

Luminato business benefits:

- Fully modular platform that grows with your business, from a compact 1 RU "headend in a box" to a multi-site, distributed headend solution



- Platform's small footprint enables efficient space usage
- Low power consumption enables longer module lifetime and lower energy costs. Energy efficiency also reduces site cooling requirements
- Internal switch for cable free interconnections and simplified maintenance
- Advanced DVB stream processing offers flexibility for channel creation and simplicity in multi-vendor environments
- The ability to customise content delivery to targeted subscriber groups
- Embedded DVB simulcrypt content protection



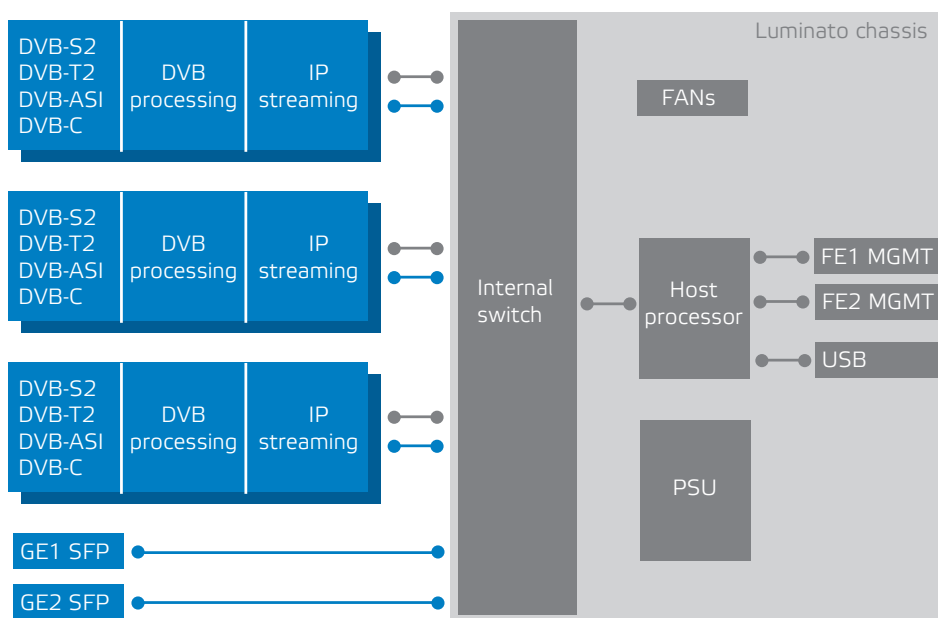
The Luminato platform is the most compact form factor in the industry with minimal power consumption.

The chassis have been divided into six processing modules. All modules can be hot swapped and auto configured, minimising service outage. The module slots can be equipped with ASI input, DVB receivers, QAM, COFDM and ASI outputs.

The two Gigabit Ethernet interfaces with electrical or optical SFP modules are provided for IP payload traffic. MPEG-2 and MPEG-4 with SD, HD and 3D are supported, suitable for IP centric Cable TV and IPTV networks.

Management of the platform is via a web user interface or CLI, providing local or remote access. The advanced DVB stream processing, UDP/IP and RTP/IP streaming and MPTS pass through offers a very flexible environment for service management.

24/7 support is available for Luminato and pre-configured platforms can be provided.

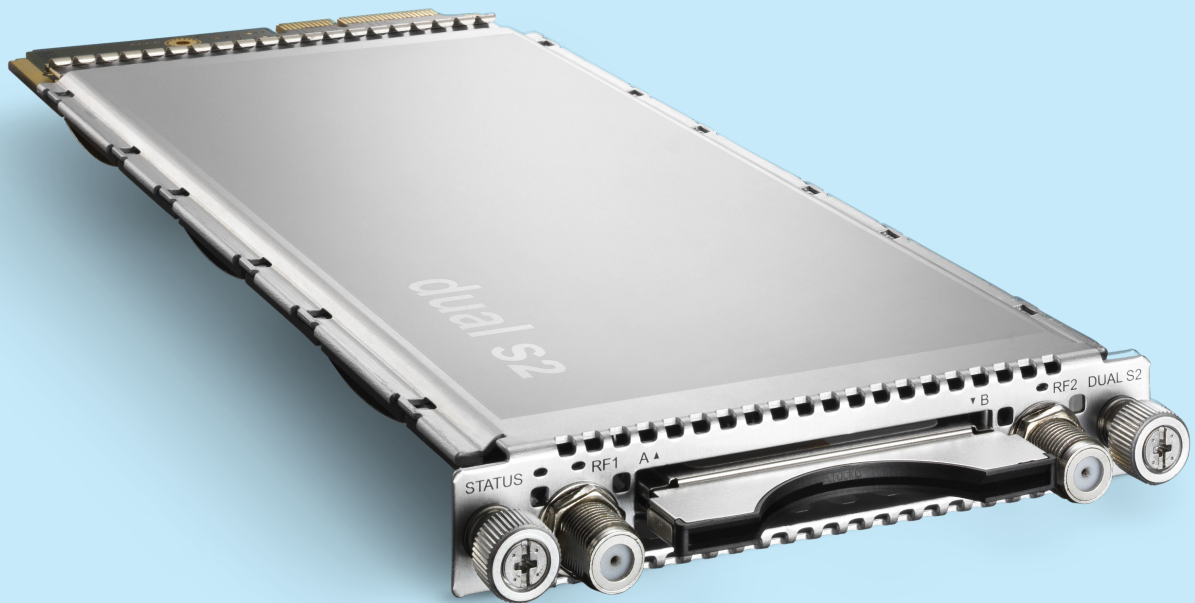


Technical specifications

Chassis		Stream interfaces	
Mounting	19" rack mountable, 1RU Installation rails for easy installation	Two gigabit Ethernet ports	Supports electrical and optical SFP modules
Dimension (H x W x D)	1U x 19" x 385 mm	Management and monitoring	
Operating voltage	100-230 VAC 50/60 Hz 48 VDC	Web user interface CLI (telnet / ssh, USB-serial) SNMP monitoring TFTP file transfer	
Power consumption	max. 120 W / fully occupied chassis	Interface Modules	
Operating Temperature	-10...55 °C ambient	6 slots for hot swappable processing modules	
Relative Humidity	up to 90% (non-condensing)		
Cooling	replaceable fans		
Management interfaces			
Two 10/100 BaseTX USB	for CAS and NMS for initial setup		

High density Luminato receivers for Cable TV and IPTV networks

Luminato enable flexible selection of free-to-air and scrambled service from DVB-S, DVB-S2, DVB-T and DVB-ASI sources, which can be adjusted to the operator's service line-up with the built-in advanced transport streamprocessing capabilities. The Luminato receivers support Standard Definition, High Definition and 3D video in MPEG-2 and MPEG-4 AVC video formats and numerous audio formats.



Headend platform with flexible modularity

- Multiple services per receiver – high efficiency, lower investments
- Embedded security – services can't be accessed in unprotected format
- Hot swap as standard – swap the module and remain the configurations

- LNB power feed, adjustable Voltage and 22 kHz tone
- DVB-S/S2 IF, DVB-ASI, DVB-T/T2 or DVB-C reception
- Advanced transport stream processing
- Demultiplexing from MPTS to SPTS
- PID remapping and filtering
- PSI/SI pass-through or regeneration
- Service follow up, service ID remapping, stream type filtering, SID follow up and service information
- Automatic/manual PSI-SI table generation
- 2 Standard CA-module slots
- Multicast and unicast streaming
- MPEG transport stream over UDP/IP or RTP/UDP/IP streaming
- SPTS and MPTS streaming (CBR or VBR)
- MPTS passthrough



Intuitive and user friendly graphical web user interface for management providing local and remote access.

The Teleste Luminato receivers provide best of breed receiving platform for Cable TV and IPTV operators. The receivers enable flexible selection of free-to-air and scrambled services from DVB-S, DVB-S2, DVB-T, DVB-T2, DVB-C or DVB-ASI sources, which can be adjusted to the operator's service line-up with the built-in advanced transport stream processing capabilities.

High density

High-performance Luminato chassis has six module slots to be freely furnished with any combination of the receiver modules which enables low-cost applications even with partially equipped chassis. Similarly, Luminato support perfectly pay-as-you-grow model in order to allow optimal timing for investments and system expansion.

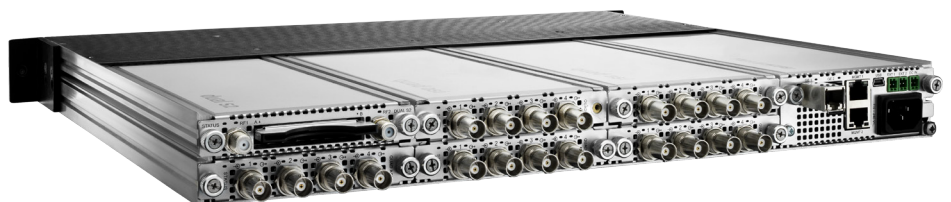
Luminato receiver modules can receive content from satellite utilizing DVB-S, DVB-S2 and DVB-ASI networks or terrestrial DVB-T, DVB-T2 networks or DVB-C networks. All receiver types enable reliable and high performance operation for receiving up to four digital television Multi-Program Transport Streams per module.

Satellite and terrestrial receivers are available as quad-receiver model or dual-receiver model with DVB descrambling. All Luminato module slots furnished with quad-receivers enable having up to 24 receivers in one RU chassis. As one receiver can process multiple services per receiver, the amount of received services can be vast. This increases efficiency and lowers headend investments dramatically. The optional descrambling uses DVB Common Interface modules flexibly supporting large variety of Conditional Access Systems.

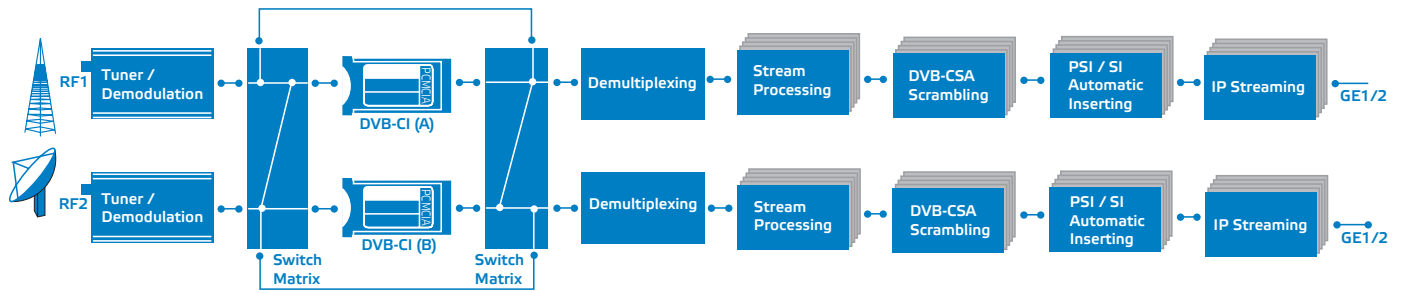
Efficiency and reliability

With advanced transport stream processing, operator can select the services and components which are relevant to his network - either to save bandwidth or otherwise simplify the outgoing stream content. The Luminato receiver follow-up any changes on the received stream to automatically readjust the processing to provide uninterrupted service. This will allow the operator to efficiently manage network capacity usage.

The available tools provide high degree of automated features to minimise the cost of system set-up and operation, and avoiding downtime due to changes in the received services.



Luminato platform fully furnished with ASI modules and Dual S2 receiver module with CI.



Block Diagram, Dual Receivers

Interoperability as standard

Luminato receivers support Standard Definition, High Definition and 3D video in MPEG-2 and MPEG-4 AVC video formats and numerous audio formats.

The output of the receiver is always fully DVB compatible IP streams – complete with automatically generated PSI/SI streams. The output can be either carried as Multi Program Transport Stream or de-multiplexed to Single Program Transport Streams, which are directly suitable for IPTV networks and allow highly flexible stream routing and re-multiplexing on Cable TV networks. The IP output streams from the device can be transmitted either directly to another module on the chassis for further processing, to IP connected head-end equipment on the local or remote head-end, or directly to IPTV network. Further, each module can create up to 120 output IP streams.

Multiservice descrambling

Luminato receivers use DVB Common Interface modules to descramble incoming services with DVB scrambling.

Receiver models with descrambling capability are equipped with two Common Interface module slots and two satellite, terrestrial or cable inputs. The Common Interface modules can be flexibly connected to either of the inputs. For example, each of the inputs can allocate own Common Interface module, or one input can use both modules for descrambling higher number of services or two different CAS system descrambling. When both descrambling slots are assigned to one input, then the other input can still be used for Free to Air services.

Embedded content protection

All receiver modules have the optional capability to do DVB Common Scrambling Algorithm content protection. The embedded scrambling doesn't require any additional hardware and the user can freely select which services will be scrambled. The content is never accessible in unprotected format which is highly appreciated by content providers. The component level scrambling is also supported to allow only video and audio scrambling and leave other streams untouched to avoid descrambling challenges for bursty data in set-top box.



Dual DVB-S2 (S) Module with Dual Common Interface Module (optional) Installed.



Quad DVB-S2 (S) Module.



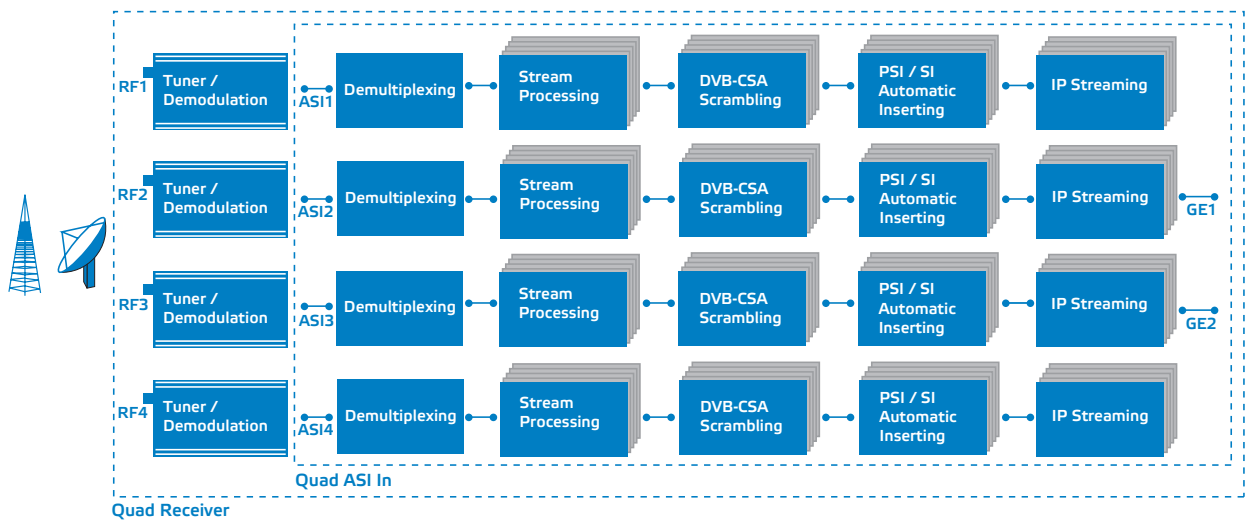
Dual DVB-T2 Module with Dual Common Interface Module (optional) Installed.



Dual DVB-C Module with Dual Common Interface Module (optional) Installed.



Quad DVB-ASI Module.



Technical specifications

Parameter	Specification	Note	Parameter	Specification	Note
Satellite Receiver RF input - DVB-S / DVB-S2			DVB Common Interface Descrambling		
Impedance	75 ohm		Connector	PCMCIA	dual slots
Frequency Range	950 ... 2150 MHz		Standard	DVB_CI EN50221	
AFC Range	8 MHz		CA module	PC-Card type II	Hot Plug
Constellation	QPSK, 8PSK	16APSK, 3)	Note: Aston and SMIT CA modules are verified to operate with Luminato		
FEC modes (autodetected)	All ratios compliant with ETS302307		DVB Common Scrambling Algorithm Content Protection		
Signal levels	-70 ... -25 dBm		Max service to be scrambled per module	120	dual inputs module quad inputs module
Symbol rate	1,5...47 MS/s	QPSK		120	
	1,5...31,5 MS/s	8PSK	IP Streaming		
	1,5...47 MS/s	16APSK, 3)	Packet format	1...7	DVB transport packets in UDP/IP, RTP/UDP/IP
Transport Stream Bitrates per RF input	90 Mb/s	descrambling not used	Traffic type	unicast or multicast	
	72 Mb/s	descrambling in use	Max. IP streamer per module	120	
Standard	ETS300421, ETS302307		Max. streaming capacity per module	250 Mb/s	
			Traffic shaping	max peak traffic limiter	
Terrestrial Receiver RF input - DVB-T / DVB-T2			LNB Power		
Impedance	75 ohm		Adjustable voltage	13/18 v	
Frequency Range	47 ... 862 MHz		22 kHz tone	on/off	
Constellation	QPSK, 16QAM, 64QAM, 256QAM	DVB-T/T2 DVB-T2	Max output current per connector	500 mA	4)
FEC modes (autodetected)	All ratios compliant with standard		General		
OFDM spectrum	2k and 8k	DVB-T	Supply voltages	24 V	
	1k, 2k, 4k, 8k, 16k, 32k	DVB-T2	Power consumption	6 W	LAS-A, LAS-C
Levels	-90 ... -20 dBm			7 W	LRS-A, LRS-C, 2)
Channel Bandwidth	6, 7, 8 MHz			7 W	LRS-B, LRS-D
Transport Stream Bitrates per RF input	90 Mb/s	descrambling not used		7 W	LRT-A
	72 Mb/s	descrambling in use		10 W	LRT-B, 2)
Standard	ETS300744	DVB-T		10 W	LRC-A, 2)
	ETS302755	DVB-T2	Connectors, RF	F	
	Nordig Unified ver 2.2.1		DVB-ASI	BNC 75 ohm	
Cable Receiver RF input - DVB-C			Dimensions	20 x 109 x 253 mm	(H x W x D), 1)
Impedance	75 ohm		Weight	0,3 kg	
Frequency Range	110...862 MHz		Enclosure classification	IP21	
Constellation	16QAM, 64QAM, 128QAM, 256QAM		Operating temperature	-10...+55 °C	
Levels	43...77 dBμV		Storage temperature	-30...+70 °C	
Symbol rate	4...7.2 MS/s		Specification is met	0... +45 °C	
Transport Stream Bitrates per RF input	90 Mb/s	descrambling not used	Note!		
	72 Mb/s	descrambling in use	1) Dimensions excluding connectors and locking screws		
Standard	ETS300429		2) Excluding CAM module and LNB powering		
	Nordig Unified ver 2.2.1		3) 16APSK only available in RF1 in dual DVB-S2 module (RF2 disabled) and RF1 and RF3 in quad DVB-S2 module (RF2 and RF4 disabled).		
DBV ASI input			4) Total LNB power must be less than main PSU capacity minus installed module power consumption.		
Impedance	75 ohm				
Max. speed per interface	216 Mb/s	payload traffic			
Max. speed total (4 ports)	250 Mb/s	shared with 4 inputs			
Standard	EN50083-9				

Quad QAM module for Luminato platform

The QAM module enables flexible multiplexing of SPTS and MPTS video services and also PSI/SI table streams. High quality QAM modulation with agile up conversion provides easy adaptation to DVB-C delivery over HFC-network.



Versatile functionality

The Teleste Luminato quad QAM modules provide an advanced DVB-C platform for Cable TV operators. The QAM module enables flexible multiplexing of SPTS and MPTS video services and also PSI/SI table streams. High quality QAM modulation with agile up conversion provides easy adaptation to DVB-C delivery over HFC-network.

The Luminato quad QAM multiplexers support selection of free-to-air and scrambled services from IP stream sources, which can be adjusted to the operator's service line-up with the built-in advanced transport stream processing capabilities. The Luminato quad QAM module support Standard Definition, High Definition and 3D video in MPEG-2 and MPEG-4 AVC video formats and numerous audio formats. Optionally content protection can be done based on DVB simulcrypt standard.

Effective flexibility

Luminato quad QAM module is fully compatible with the high-performance

Luminato chassis, where it can be fitted freely to any of the six module slots. In accordance with the Luminato system architecture, the video processing is performed on the quad QAM modules, which enables low-cost applications even with partially equipped chassis, while having the performance scalability to fully equipped chassis.

Complete cable TV headend in 1 RU

As one or more Quad QAM modules can be included in 1 RU Luminato platform with Luminato DVB-S, DVB-S2, DVB-ASI, DVB-T, DVB-T2 and DVB-C receivers, together they can form a complete cable TV headend. Furthermore, this provides effective way for complementing service bouquet with locally received content in the edge of the network.

Embedded content protection

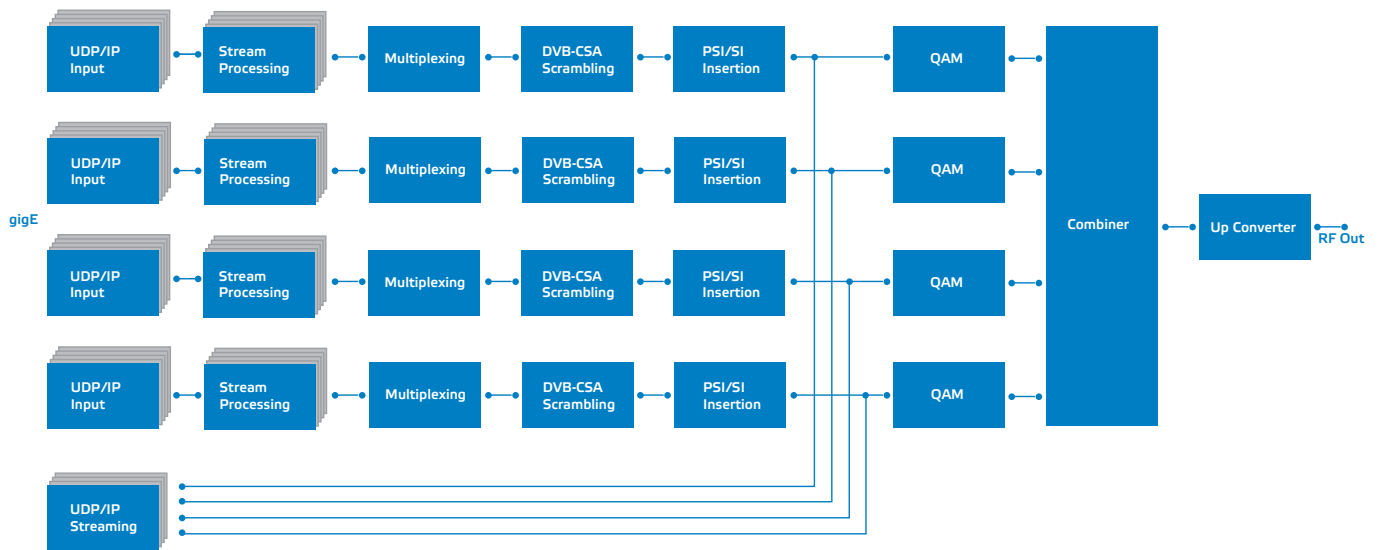
Quad QAM module has the optional capability to do DVB Common Scrambling Algorithm content protection. The embedded scrambling doesn't require any additional hardware and the user

can freely select which services will be scrambled. The component level scrambling is also supported to allow only video and audio scrambling and leave other streams untouched to avoid descrambling challenges for bursty data in set-top box.

Efficiency and reliability

With the advanced transport stream processing, operator can select the services and components which are relevant to his network. The Luminato will follow-up any changes on the stream to automatically readjust the processing to provide uninterrupted service. This will allow the operator to efficiently manage network capacity usage.

The available tools provide high degree of automated features to minimise the cost of system set-up and operation, and avoiding downtime due to changes in the received services.



Block Diagram, Quad QAM Out

Features

- DVB TS over UDP/IP, RTP/UDP/IP reception
- IP address / UDP port selector for input streams
- Network dejittering
- Support CBR and VBR TS
- Support SPTS and MPTS multiplexing
- Advanced transport stream processing
- PCR processing
- Multiplexing
- DVB CSA content protection
- Automatic PSI/SI table generation
- Custom PSI/SI creation and streaming
- High quality QAM modulation
- Agile upconversion
- MPEG transport stream over UDP/IP and RTP/UDP/IP streaming
- Multiplex IP streaming (VBR or CBR)

Technical specifications

Parameter	Specification	Note	Parameter	Specification	Note
IP inputs			Out of band noise, 3)	<-58,5 dBc <-62 dBc <-64 dBc <-66 dBc -70 dBc	1st adj. channel 2nd adj. channel 3rd adj. channel other channels other channels, 4)
Frame formats	UDP/IP, RTP/UDP/IP		Harmonics	<-60 dBc	
TS packet per UDP frame	1...7		MER	>43 dB	LQM-A, LQM-C
Max inputs streams/module	120		IP streamer output of multiplexer		
Dejittering buffersize	200 ms		Framing format	UDP/IP, RTP/UDP/IP	
Multiplexers			Traffic type	unicast or multicast	
Number of multiplexer	4		TS format	CBR, VBR	
Max input service/multiplexer	120		Max TS packet speed/streamer directly related QAM output speed		
Max components per service	32		Maximum speed total	250 Mb/s	shared with 4 outputs
Output speed	depends on QAM modulator settings		General		
DVB Common Scrambling Algorithm Content Protection			Power consumption	15 W	
Max scrambled services per module	120	LQM-A, LQM-C	Supply voltages	24 V	
QAM Output			Connectors, DVB-C RF Out	F	
Standard	ITU-T J.83 Annex A and C		Dimensions	20 x 109 x 253 mm (HxWxD), 1)	
QAM constellations	64, 128, 256		Weight	0,4 kg	
Symbol Rate	4... 7,4 MS/s		Enclosure classification	IP21	
Impedance	75 ohm		Operating temperature range	-10...+55 °C	
Output return loss	>14 dB	active channel	Storage temperature range	-30...+70 °C	
	>12 dB	act. ch 81 ... 862 MHz	Specification is met	0...+45 °C	
	>10 dB	act. ch 862... 1000 MHz	Notes		
Output Level	102 ... 112 dBμV	Four adj. channels	1) Dimensions excluding connectors and locking screws		
	104 ... 114 dBμV	Three adj. channels	3) Values for quad channels active. Excluding harmonics		
	106 ... 116 dBμV	Two adj. channels	4) Typical value outside 100 MHz of active channel block		
	110 ... 120 dBμV	One adj. channel			
Output Level accuracy	+/- 2 dB				
Output Power step size	0,2 dB				
Output center frequency	85...999 MHz				
Output frequency accuracy	+/- 30 kHz				
Output frequency step size	50 kHz				

DVB-ASI output module for Luminato platform

The DVB-ASI output module enables flexible multiplexing of SPTS and MPTS video services and also PSI/SI table streams. High quality multiplexing module is ideal for an IP centric headend to create MPTS at the main headend for sending through DVB-ASI or IP network to remote headends.



Versatile functionality

Luminato multiplexer enables flexible multiplexing of SPTS and MPTS video services and also PSI/SI table streams. The multiplexer is ideal for an IP centric headend to create MPTS at the main headend and send them through to IP network to remote headends.

The Luminato quad ASI output module support selection of free-to-air and scrambled services from IP stream sources, which can be adjusted to the operator's service line-up with the built-in advanced transport stream processing capabilities. The Luminato quad ASI output module support Standard Definition, High Definition and 3D video in MPEG-2 and MPEG-4 AVC video formats and numerous audio formats.

Effective flexibility

Luminato quad ASI output module is fully compatible with the high-

performance Luminato chassis, where it can be fitted freely to any of the six module slots. In accordance with the Luminato system architecture, the video processing is performed on the quad ASI output modules, which enables low-cost applications even with partially equipped chassis, while having the performance scalability to fully equipped chassis.

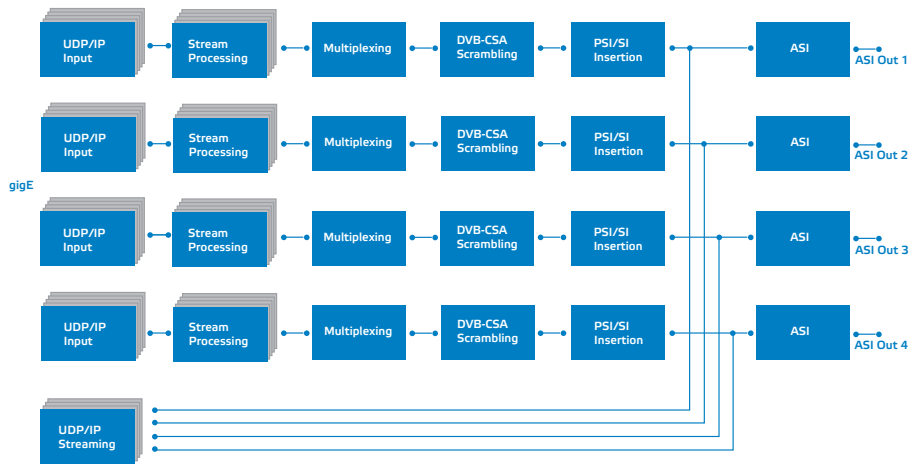
Embedded content protection

Quad QAM module has the optional capability to do DVB Common Scrambling Algorithm content protection. The embedded scrambling doesn't require any additional hardware and the user can freely select which services will be scrambled. The component level scrambling is also supported to allow only video and audio scrambling and leave other streams untouched to avoid descrambling challenges for bursty data in set-top box.

Efficiency and reliability

With the advanced transport stream processing, operator can select the services and components which are relevant to his network. The Luminato will follow-up any changes on the stream to automatically readjust the processing to provide uninterrupted service. This will allow the operator to efficiently manage network capacity usage.

The available tools provide high degree of automated features to minimise the cost of system set-up and operation, and avoiding downtime due to changes in the received services.



Block Diagram, Quad ASI Out

Features

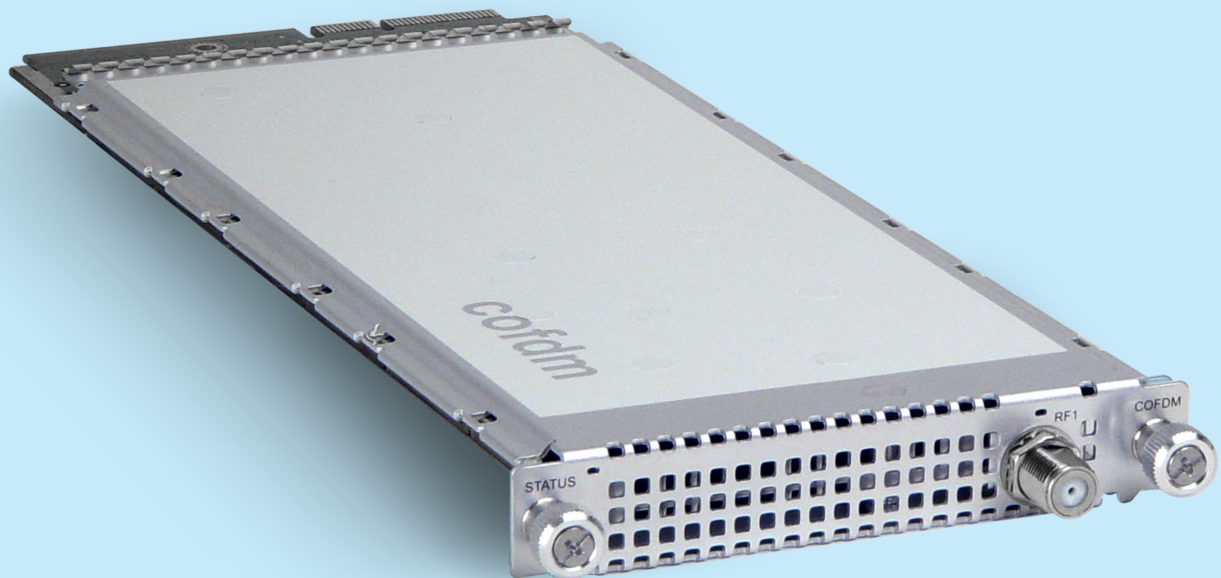
- DVB TS over UDP/IP or RTP/UDP/IP reception
- IP address / UDP port selector for input streams
- Network dejittering
- Support CBR and VBR TS
- Advanced transport stream processing
- Supports SPTS and MPTS multiplexing
- PCR processing
- Automatic PSI/SI table generation
- Custom PSI/SI table creation and streaming
- DVB CSA content protection (LAS-D)
- MPEG transport stream over UDP/IP and RTP/UDP/IP streaming
- MPTS passthrough
- DVB-ASI output
- Multiplex IP streaming (VBR or CBR)

Technical specifications

Parameter	Specification	Note	Parameter	Specification	Note
IP inputs			IP streamer output of multiplexer		
Frame formats	UDP/IP, RTP/UDP/IP		Framing format	UDP/IP, RTP/UDP/IP	
TS packets per UDP frame	1...7		Traffic type	unicast or multicast	
Max inputs streams per module	120		TS format	VBR, CBR	
Dejittering buffersize	200 ms		Max TS speed per streamer	75 Mb/s	
Multiplexers			Maximum speed total	250 Mb/s	shared with 4 outputs
Number of multiplexer per module	4		General		
Max input services per multiplexer	120		Power consumption	6,5 W	
Max components per service	32		Supply voltages	24 V	
DVB Common Scrambling Algorithm Content Protection			Connectors, DVB ASI out	BNC 75 ohm	
Max scrambled services per module	120	LAS-D	Dimensions	20 x 109 x 253 mm (HxWxD), 1)	
DBV ASI Output			Weight	0,3 kg	
Impedance	75 ohm		Enclosure classification	IP21	
Traffic mode	adjustable	variable/constant bit rate	Operating temperature range	-10...+55 °C	
Output speed for constant bitrate	adjustable	1...75 Mb/s	Storage temperature range	-30...+70 °C	
Maximum speed per interface	75 Mb/s	payload traffic	Specification is met	0...+45 °C	
Maximum speed total (4 ports)	250 Mb/s	shared with 4 outputs	Note!		
Standard	EN 50083-9		1) Dimensions excluding connectors and locking screws		

Dual/quad COFDM module for Luminato platform

The dual/quad COFDM module enables flexible multiplexing of SPTS and MPTS video services as well as PSI/SI table streams. High quality DVB-T modulation with agile up conversion provides easy adaptation to DVB-T delivery over HFC-network.



Versatile functionality

The Teleste Luminato dual/quad COFDM modules provide an advanced DVB-T platform for Cable TV operators. The COFDM module enables flexible multiplexing of SPTS and MPTS video services and also PSI/SI table streams. High quality COFDM modulation with agile up conversion provides easy adaptation to DVB-T delivery over HFC-network.

The Luminato dual/quad COFDM multiplexers support selection of free-to-air and scrambled services from IP stream sources, which can be adjusted to the operator's service line-up with the built-in advanced transport stream processing capabilities. The Luminato dual/quad COFDM module support Standard Definition, High Definition and 3D video in MPEG-2 and MPEG-4 AVC video formats and numerous audio formats.

Effective flexibility

Luminato dual/quad COFDM module is fully compatible with the high-performance Luminato chassis, where it can be fitted freely to any of the six module slots. In accordance with the Luminato system architecture, the video processing is performed on the dual/quad COFDM modules, which enables low-cost applications even with partially equipped chassis, while having the performance scalability to fully equipped chassis.

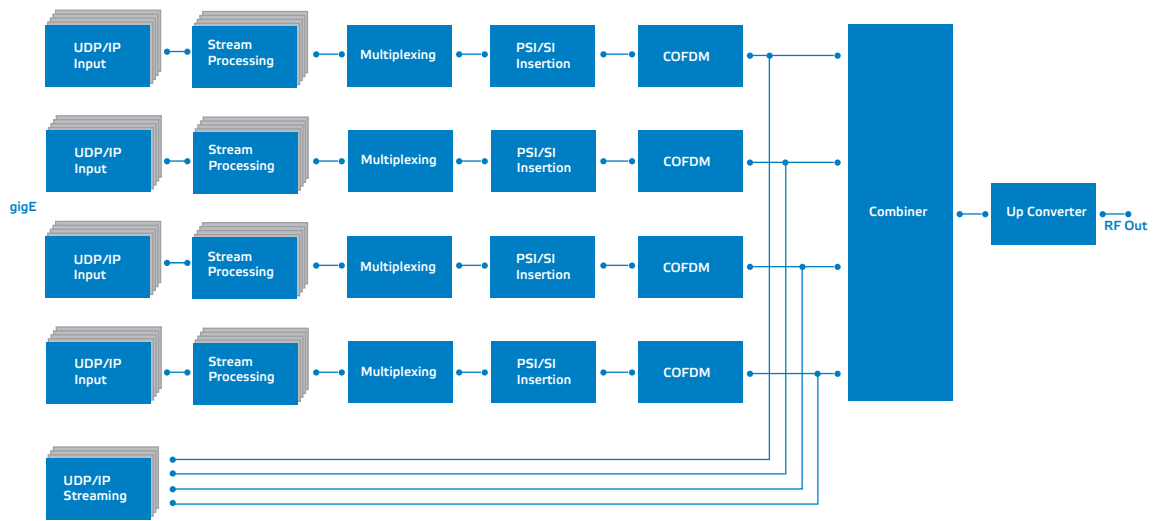
Complete cable TV headend in 1 RU

As one or more dual/quad COFDM modules can be included in 1 RU Luminato platform with Luminato DVB-S, DVB-S2, DVB-ASI, DVB-T, DVB-T2, DVB-C receivers and QAM modules, together they can form a complete cable TV headend. This provides an effective way for receiving services from multiple sources as well as ingesting them to network in various formats.

Efficiency and reliability

With the advanced transport stream processing, operator can select the services and components which are relevant to his network. The Luminato will follow-up any changes on the stream to automatically readjust the processing to provide uninterrupted service. This will allow the operator to efficiently manage network capacity usage.

The available tools provide high degree of automated features to minimise the cost of system set-up and operation, and avoiding downtime due to changes in the received services.



Block Diagram, Quad COFDM Out

Features

- DVB TS over UDP/IP or RTP/UDP/IP reception
- IP address / UDP port selector for input streams
- Network dejittering
- Advanced transport stream processing
- PCR processing
- Multiplexing
- Automatic PSI/SI table generation
- Custom PSI/SI creation and streaming
- High quality COFDM modulation
- Agile upconversion
- Multiplex IP streaming (VBR or CBR)
- MPEG transport stream over UDP/IP and RTP/UDP/IP streaming

Technical specifications

Parameter	Specification	Note	Parameter	Specification	Note
IP inputs			IP streamer output of multiplexer		
Frame formats	UDP/IP, RTP/UDP/IP		Framing format	UDP/IP, RTP/UDP/IP	
TS packet per UDP frame	1...7		Traffic type	unicast or multicast	
Max inputs streams/module	120		TS format	CBR, VBR	
Dejittering buffersize	200 ms		Max TS packet speed/streamer	directly related COFDM output speed	
Multiplexers			Maximum speed total	250 Mb/s	shared with 4 outputs
Number of multiplexer	2 or 4	2)	General		
Max input service/multiplexer	120		Power consumption	15 W	
Max components per service	32		Supply voltages	24 V	
Output speed	depends on COFDM modulator settings		Connectors, DVB-T RF out	F	
COFDM Output			Dimensions	20 x 109 x 253 mm (HxWxD), 1)	
Transmission mode	2K, 8K		Weight	0,4 kg	
Transmission Guard Interval	1/32, 1/16, 1/8, 1/4		Enclosure classification	IP21	
QAM constellations	QPSK, QAM16, QAM64		Operating temperature range	-10...+55 °C	
HO code rate	1/2, 2/3, 3/4, 5/6, 7/8		Storage temperature range	-30...+70 °C	
Impedance	75 ohm		Specification is met	0...+45 °C	
Output return loss	>14 dB	active channel	Notes		
	>12 dB	act. ch 81...862 MHz	1) Dimensions excluding connectors and locking screws		
	>10 dB	act. ch 862...1000 MHz	2) Dual/Quad COFDM module can have 2 modulators in 8K transmission mode and 4 modulators in 2K transmission mode		
Output Level, 5)	102 ... 112 dBμV	Four adj. channels	3) Values for quad channels active. Excluding harmonics (8 MHz channel)		
	104 ... 114 dBμV	Three adj. channels	4) Typical value outside 100 MHz of active channel block (8 MHz channel)		
	106 ... 116 dBμV	Two adj. channels			
	110 ... 120 dBμV	One channel			
Output Level accuracy	+/- 2 dB				
Output Power step size	0,2 dB				
Output center frequency	85...999 MHz				
Output frequency accuracy	+/- 30 kHz				
Output frequency step size	50 kHz				
Out of band noise, 3)	<-58,5 dBc	1st adj. channel			
	<-62 dBc	2nd adj. channel			
	<-64 dBc	3rd adj. channel			
	<-66 dBc	other channels			
	-70 dBc	other channels, 4)			
Harmonics	<-63 dBc				